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REMARKS

Objection to the Specification

The examiner objected to the specification indicating the word "the" should be deleted from the paragraph on page 3, line 13. The objection should be withdrawn in view of the above amendment to the specification.

Claim Rejections - 35 USC §103

The examiner rejected claims 1-2, 5, 7 and 10 under 35 USC §103(a) as unpatentable over Uchihori (5,996,014) in view of Thorson (6,055,618). The applicant respectfully disagrees.

Uchihori discloses a shared video server system that comprises a shared disk array, a plurality of element servers which interface with the disk array, and a means for scheduling access to the disk storage devices in the disk array. In the embodiment disclosed in FIG. 8, Uchihori discloses that the scheduling operation is distributed between the element servers 12-1 to 12-N and that scheduling data is transmitted between the element servers 12-1 to 12-N. In the embodiment disclosed in FIG. 9, Uchihori discloses a master scheduler 90 for scheduling access to the disk storage devices for each of the element servers 12-1 to 12-N. However, nowhere does Uchihori disclose or suggest to transfer scheduling data from the disk storage devices to a memory of a network switch via a number of switching elements, wherein the scheduling data for scheduling access to the plurality of disk storage devices.

In contrast, Uchihori discloses the use of a "reservation table" which tracks the usage of each disk storage device based on current access requests (col. 13, lines 11-44). When a new access request is received, one or more of the available disk storage devices are reserved and the reservation table is updated. However, the reservation table and therefore the scheduling is not affected by scheduling data received from the disk storage devices as recited in the claims. Further, Thorson does not disclose or suggest to transmit

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scheduling data from a plurality of disk storage devices to a memory of a network switch for use in scheduling access to the disk storage devices. The rejection should therefore be withdrawn.

The examiner rejected claims 3-4, 8 and 9 under 35 USC §103(a) as unpatentable over Uchihori in view of Thorson and further in view of Chen (5,787,482). The applicant respectfully disagrees.

Claim 3 recites that the scheduling data comprises a radial location of the head within each disk storage device, and claim 4 recites that the scheduling data comprises a circumferential location of the head within each disk storage device. This scheduling data is transferred from each storage device through a switched fabric to a memory for use by a microprocessor in scheduling access to the disk storage devices. In contrast, Chen does not disclose or suggest to transfer scheduling data (radial location of the head) from each storage device to a memory of a switched fabric network. Chen was discussed by the applicant in the background of the specification on page 2, lines 4-14:

"U.S. Patent No. 5,787,482 discloses a video server wherein access requests to a plurality of disk drives are scheduled based on an inferred radial position of the head within each disk drive. The radial position of the head is inferred based on commands previously sent to each disk drive. However, using inferred temporal parameters to implement the scheduling algorithm provides sub-optimal performance due to the error inherent in estimation. Further, it is difficult to minimize the variance in latency associated with generating the temporal parameters due to the estimation error as well as the variance in computing the temporal parameters, which further degrades performance of the scheduling algorithm. Consequently, scheduling algorithms based on inferred temporal parameters are sub-optimal with respect to the aggregate performance of a computer network,

and particularly the number of input/output operations per second (IOPs)

performed by each disk drive connected to the computer network."

Chen discloses at col. 8, lines 59-61, a disk scheduler 109 (FIG. 3A) within a video server

101 which updates the current arm location for the head in each disk drive based on the

instructions that are executed. Whenever a new instruction is sent to a particular disk

drive, the radial position (arm location) is updated for that disk drive in data structure

303. However, the radial location of the head determined from the instructions sent to a

disk drive is an inferred or estimated location and may not correspond to the actual

location of the head since a conventional disk drive maps logical block addresses to
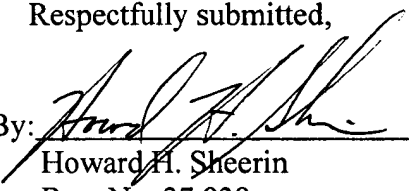
physical block addresses.

In contrast to Chen, the claims recite to transmit the actual radial location of the

head from the disk storage devices to a memory of a network switch for use by a

microprocessor to schedule access to the disk storage devices. Therefore, since Chen

discloses a computer network (a video server 101) which infers the radial position of the

head rather than receive and process the actual radial position of the head to schedule

access to disk storage devices, the rejection should be withdrawn.

The rejections of the remaining claims should be withdrawn for the reasons set

forth above.

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CONCLUSION

The above amendments to the specification do not raise new issues or add new matter; the applicant respectfully requests the examiner to enter the amendments. In view of the foregoing remarks, the rejections should be withdrawn. In particular, the relied upon prior art does not disclose or suggest to transfer scheduling data <u>from disk storage devices to a memory of a network switch via a number of switching elements,</u> wherein the scheduling data for use in scheduling access to the disk storage devices. The examiner is encouraged to contact the undersigned over the telephone in order to resolve any remaining issues that may prevent the immediate allowance of the present application.

Respectfully submitted,

Date: _10/17/03_ By: _____

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on:

_10/17/03_   Howard H. Sheerin
(Date)   (Print Name)

_____
(Signature)